281-55
38

Virology

Volume 142
1985

EDITORS

W. K. Joklik, EDITOR-IN-CHIEF A. Berk P. W. Choppin R. Haselkorn
D. W. Kingsbury F. Rapp J. G. Shaw M. D. Summers P. K. Vogt

ASSOCIATE EDITORS

S. Adhya
C. Baglioni
A. K. Banerjee
C. Basilico
K. L. Beemon
T. Ben-Porat
K. I. Berns
J. M. Bishop
M. A. Bratt
T. R. Broker
G. E. Bruening
J. S. Brugge
B. J. Carter
J. M. Coffin
J. S. Colter
R. J. Courtney
S. Dales
J. M. Dalrymple
J. M. DeMarchi
W. G. Dougherty
E. Ehrenfeld
F. A. Eiserling
M. K. Estes
A. J. Faras
P. Faulkner
B. N. Fields
S. J. Flint
W. R. Folk
R. I. B. Francki
E. P. Geiduschek
W. Gerhard
R. F. Gesteland
R. M. Goodman
A. Granoff
D. E. Griffin
G. Hager
W. S. Hayward
K. V. Holmes
M. S. Horwitz
M. M. Howe
R. Hull
E. Hunter
T. Hunter
A. O. Jackson
J. E. Johnson
J. M. Kaper
J. D. Keene
E. Kieff
E. Knight, Jr.
R. M. Krug
M. Lai
R. A. Lamb
R. A. Lazzarini
A. D. Levinson
L. Levintow
D. M. Livingston
H. F. Lodish
R. B. Luftig
I. G. Miller, Jr.
L. K. Miller
R. C. Miller, Jr.
S. Millward
P. Model
T. J. Morris
B. Moss
S. A. Moyer
F. A. Murphy
J. R. Nevins
D. J. O'Callaghan
P. Palese
E. Paoletti
C. C. Payne
H. J. Raskas
H. D. Robertson
H. L. Robinson
G. F. Rohrmann
B. Roizman
J. A. Rose
L. B. Rothman-Denes
C. E. Samuel
P. A. Schaffer
M. J. Schlesinger
I. R. Schneider
J. R. Scott
P. B. Sehgal
P. A. Sharp
T. Shenk
P. G. Spear
V. Stollar
J. H. Strauss
B. Sugden
M. M. Susskind
R. H. Symons
P. Tattersall
P. Tegtmeyer
D. A. Thorley-Lawson
D. W. Trent
I. M. Verma
E. K. Wagner
E. Wimmer
O. Witte
J. S. Youngner
N. D. Zinder

ACADEMIC PRESS, INC.
(Harcourt Brace Jovanovich, Publishers)
San Diego Orlando New York London
Toronto Montreal Sydney Tokyo

Copyright © 1985 by Academic Press, Inc.
All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1985 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0042-6822/85 $3.00

MADE IN THE UNITED STATES OF AMERICA

Contents of Volume 142

Number 1, April 15, 1985

Miklos Szekeres, Bernard H. Brownstein, Helen R. Revel, and Robert Haselkorn. Terminal Sequences of the Bacteriophage ϕ6 Segmented dsRNA Genome and Its Messenger RNAs 1

M. A. Erlandson, J. Gordon, and E. B. Carstens. Size and Map Locations of Early Transcription Products on the *Autographa californica* Nuclear Polyhedrosis Virus Genome 12

M. V. G. de Mejia, Ernest Hiebert, and Dan E. Purcifull. Isolation and Partial Characterization of the Amorphous Cytoplasmic Inclusions Associated with Infections Caused by Two Potyviruses 24

M. V. G. de Mejia, Ernest Hiebert, Dan E. Purcifull, David W. Thornbury, and Thomas P. Pirone. Identification of Potyviral Amorphous Inclusion Protein as a Nonstructural, Virus-Specific Protein Related to Helper Component 34

Alt Zantema, Jack A. M. Fransen, Arja Davis-Olivier, Frans C. S. Ramaekers, G. Peter Vooijs, Bob DeLeys, and Alex J. Van der Eb. Localization of the E1B Proteins of Adenovirus 5 in Transformed Cells, as Revealed by Interaction with Monoclonal Antibodies 44

A. D. T. Barrett and N. J. Dimmock. Differential Effects of Defective Interfering Semliki Forest Virus on Cellular and Virus Polypeptide Synthesis 59

Masayoshi Enami, Ryuji Fukuda, and Akira Ishihama. Transcription and Replication of Eight RNA Segments of Influenza Virus 68

James F. Curran and Charles R. Stewart. Cloning and Mapping of the SPO1 Genome 78

James F. Curran and Charles R. Stewart. Transcription of *Bacillis subtilis* Plasmid pBD64 and Expression of Bacteriophage SPO1 Genes Cloned Therein 98

Klaus B. Andersen. The Fate of the Surface Protein gp70 during Entry of Retrovirus into Mouse Fibroblasts 112

Jeffrey T. Mayne, John R. Bell, Ellen G. Strauss, and James H. Strauss. Pattern of Glycosylation of Sindbis Virus Envelope Proteins Synthesized in Hamster and Chicken Cells 121

Martin F. E. Siaw, Muhammad Shahabuddin, Susan Ballard, John G. Shaw, and Robert E. Rhoads. Identification of a Protein Covalently Linked to the 5′ Terminus of Tobacco Vein Mottling Virus RNA 134

Karl H. J. Gordon and Robert H. Symons. Subgenomic RNAs with Nucleotide Sequences Derived from RNAs 1 and 2 of Cucumber Mosaic Virus Can Act as Messenger RNAs *in Vitro* 144

Michael B. A. Oldstone, Rafi Ahmed, Michael J. Buchmeier, Paul Blount, and Antoinette Tishon. Perturbation of Differentiated Functions during Viral Infection *in Vivo*. I. Relationship of Lymphocytic Choriomeningitis Virus and Host Strains to Growth Hormone Deficiency 158

Yves Riviere, Rafi Ahmed, Peter Southern, and Michael B. A. Oldstone. Perturbation of Differentiated Functions during Viral Infection *in Vivo*. II. Viral Reassortants Map Growth Hormone Defect to the S RNA of the Lymphocytic Choriomeningitis Virus Genome 175

W. Gerard Robey, Gregory A. Dekaban, Judith K. Ball, Charles M. Poore, and Peter J. Fischinger. Thymotropic Envelope Gene Recombinants of Moloney Leukemia Virus Have Highly Conserved Envelope Structures 183

Short Communications

Peter J. Fischinger, Nancy M. Dunlop, W. Gerard Robey, and Werner Schäfer. Generation of Thymotropic Envelope Gene Recombinant Virus and Induction of Lymphoma by Ecotropic Moloney Murine Leukemia Virus 197

Sushilkumar G. Devare, Yangkil Kim, J. Lawrence Fox, Jane Getchell, Cirilo Cabradilla, and V. S. Kalyanaraman. Human T-Cell Leukemia Virus Type II: Primary Structure Analysis of the Major Internal Protein, p24 and the Nucleic Acid Binding Protein, p15 206

Ho-Wen Hsu, Pamela Schwartzberg, and Stephen P. Goff. Point Mutations in the P30 Domain of the *gag* Gene of Moloney Murine Leukemia Virus 211

Janet C. Hearing, Anita Lewis, and Arnold J. Levine. Structure of the Epstein–Barr Virus Nuclear Antigen as Probed with Monoclonal Antibodies 215

Announcement 221

Author Index for Volume 142, Number 1 222

Number 2, April 30, 1985

Christopher S. Barker, John W. Wills, James A. Bradac, and Eric Hunter. Molecular Cloning of the Mason–Pfizer Monkey Virus Genome: Characterization and Cloning of Subgenomic Fragments 223

M. C. Els, G. M. Air, K. G. Murti, R. G. Webster, and W. G. Laver. An 18-Amino Acid Deletion in an Influenza Neuraminidase 241

HANS W. JANSEN, TILO PATSCHINSKY, NORBERT WALTHER, RUDI LURZ, AND KLAUS BISTER. Molecular and Biological Properties of MH2D12, a Spontaneous *mil* Deletion Mutant of Avian Oncovirus MH2 248
DANIEL J. MOYNET, ALBA E. COLON-WHITT, GARY B. CALANDRA, AND ROGER M. COLE. Structure of Eight Streptococcal Bacteriophages 263
HUBERT E. BLUM, JEFFREY D. HARRIS, PETER VENTURA, D. WALKER, K. STASKUS, E. RETZEL, AND ASHLEY T. HAASE. Synthesis in Cell Culture of the Gapped Linear Duplex DNA of the Slow Virus Visna 270
R. MICHALIDES, R. VERSTRAETEN, F. W. SHEN, AND J. HILGERS. Characterization and Chromosomal Distribution of Endogenous Mouse Mammary Tumor Viruses of European Mouse Strains STS/A and GR/A 278
NA-SHENG LIN AND W. G. LANGENBERG. Peripheral Vesicles in Proplastids of Barley Stripe Mosaic Virus-Infected Wheat Cells Contain Double-Stranded RNA 291
MASAYASU OIE. Reversible Inactivation and Reactivation of Vaccinia Virus by Manipulation of Viral Lipid Composition 299
SACHIKO KAJIGAYA, HIROSHI ARAKAWA, SHUSUKE KUGE, TOSHITAKA KOI, NOBUMASA IMURA, AND AKIO NOMOTO. Isolation and Characterization of Defective-Interfering Particles of Poliovirus Sabin 1 Strain 307
K. G. MURTI, M. CHEN, AND R. GOORHA. Interaction of Frog Virus 3 with the Cytomatrix. III. Role of Microfilaments in Virus Release 317
M. V. WILLIAMS, J. HOLLIDAY, AND R. GLASER. Induction of a Deoxyuridine Triphosphate Nucleotidohydrolase Activity in Epstein–Barr Virus-Infected Cells 326
ANN R. HUNT AND JOHN T. ROEHRIG. Biochemical and Biological Characteristics of Epitopes on the E1 Glycoprotein of Western Equine Encephalitis Virus 334
JOHN T. ROEHRIG AND JAMES H. MATHEWS. The Neutralization Site on the E2 Glycoprotein of Venezuelan Equine Encephalomyelitis (TC-83) Virus Is Composed of Multiple Conformationally Stable Epitopes 347
NANCY R. RICE, ROBERT M. STEPHENS, ARSÉNE BURNY, AND RAYMOND V. GILDEN. The *gag* and *pol* Genes of Bovine Leukemia Virus: Nucleotide Sequence and Analysis 357
LEE MIZZEN, ANNE HILTON, STEVE CHELEY, AND ROBERT ANDERSON. Attenuation of Murine Coronavirus Infection by Ammonium Chloride 378
DANIEL A. ENGEL, HIMADRI SAMANTA, MARY E. BRAWNER, AND PETER LENGYEL. Interferon Action: Transcriptional Control of a Gene Specifying a 56,000-Da Protein in Ehrlich Ascites Tumor Cells 389

SHORT COMMUNICATIONS

ALAN L. GOLDIN, ROZANNE M. SANDRI-GOLDIN, JOSEPH C. GLORIOSO, AND MYRON LEVINE. Stable Induction of a 51K Cellular Protein in Neuronal Cells Surviving Herpes Simplex Virus Type 1 Infection 398
SHIRLEY A. HARMON, EDWARD N. ROBINSON, JR., AND DONALD F. SUMMERS. Ultrastructural Localization of I. and NS Enzyme Subunits on Vesicular Stomatitis Virus RNPs Using Gold Sphere–Staphylococcal Protein A–Monospecific IgG Conjugates 406
PHILIP I. MARCUS AND MARGARET J. SEKELLICK. Interferon Induction by Viruses. XIII. Detection and Assay of Interferon Induction-Suppressing Particles 411
TERRY C. WHYARD, STEVEN H. WOOL, AND GEOFFREY J. LETCHWORTH. Monoclonal Antibodies against African Swine Fever Viral Antigens 416
ANN D. KWONG AND NIZA FRENKEL. The Herpes Simplex Virus Amplicon. IV. Efficient Expression of a Chimeric Chicken Ovalbumin Gene Amplified within Defective Virus Genomes 421
W. M. SCHNITZLEIN AND M. E. REICHMANN. Characterization of New Jersey Vesicular Stomatitis Virus Isolates from Horses and Black Flies during the 1982 Outbreak in Colorado 426
LAUREN SOMPAYRAC AND KATHLEEN J. DANNA. The SV40 T-Antigen Gene Can Have Two Introns 432
ELCHONON M. BERKOWITZ AND BEATRIZ G.-T. POGO. Molecular Characterization of Two Strains of Shope Fibroma Virus 437
HUGH D. ROBERTSON, DIANNE L. ROSEN, AND ANDREA D. BRANCH. Cell-Free Synthesis and Processing of an Infectious Dimeric Transcript of Potato Spindle Tuber Viroid RNA 441

ANNOUNCEMENT 448
AUTHOR INDEX FOR VOLUME 142 449
SUBJECT INDEX FOR VOLUME 142 451

NOTICE TO AUTHORS

Editorial Policy. *Virology* will publish articles on the biological, biochemical, genetic, and biophysical aspects of virus research. All manuscripts should meet the following four basic criteria. *First,* they should report *original* research results. Manuscripts are accepted for review on the understanding that the same or similar work, wholly or in part, has not been and will not be nor is presently submitted for publication elsewhere. *Second,* they should report research that is *fundamental,* rather than applied. Emphasis should be directed at understanding mechanisms by which viruses function, rather than on descriptions of virological phenomena. *Third,* they should report research that is *pioneering* in nature. Authors should clearly understand that space limitations may make it impossible to publish manuscripts that describe work that was performed competently but that does not break new conceptual ground; papers that describe results that have already been obtained with closely related virus or cell systems may be accepted only in exceptional circumstances. *Fourth,* they should be written as concisely as possible, their length being the minimum compatible with a clear presentation and interpretation of the experimental data. Repetition, such as between the Materials and Methods section and figure legends, should be carefully avoided. The Introduction should contain only material relevant to the research that is described; and the Discussion, which should exceed two pages only in exceptional circumstances, should be constructively interpretative and not merely restate the experimental results. Good writing requires careful examination that every word, phrase, and sentence is essential and arranged in logical sequence.

Manuscripts are accepted for review on the understanding that its submission for publication has been approved by all of the authors and by the institution where the work was carried out; that any person cited as a source of personal communications has approved such citations; that locally and nationally prescribed safety regulations governing exposure of laboratory personnel and contamination of the environment have been observed; and that all variant virus and cell strains described or mentioned in the paper will be freely available for distribution upon request to all qualified members of the scientific community. Written verification of these conditions may be required at the Editors' discretion. Articles and any other material published in *Virology* represent the opinions of the author(s) and should not be construed as reflecting the opinions of the Editors and the Publisher.

Manuscripts should be submitted in duplicate to the editorial office of *Virology,* Seventh Floor, 1250 Sixth Avenue, San Diego, California 92101, by first class mail in flat form.

Authors submitting a manuscript do so on the understanding that if it is accepted for publication, copyright in the article, including the right to reproduce the article in all forms and media, shall be assigned exclusively to the Publisher. The Publisher will not refuse any reasonable request by the author for permission to reproduce any of his or her contributions to the journal.

Form of Manuscript. Manuscripts should be typewritten (not mimeographed), with wide margins on high quality bond paper, using double or triple spacing throughout. Subdivision of articles into *Abstract, Introduction, Materials and Methods, Results, Discussion, Acknowledgments,* and *References* is recommended. The manuscript must begin with an *Abstract.* In the Methods section, authors should draw attention to any particular chemical or biological hazards that may be involved in carrying out the experiment described. Any relevant safety precautions should be described; if an accepted code of practice has been followed, a reference to the relevant standards should be given. Reviews of the literature should be restricted to closely pertinent papers. Tables, figures, names, quotations, and bibliography (and all text references to the same) should be carefully checked for errors. A proposed running head of no more than 37 characters should be included.

Figures and Tables. Number all figures consecutively with Arabic numbers and give each one a descriptive legend. All illustrations should be in finished form suitable for reproduction. Figures should be planned to fit the proportion of the printed page (5½″ × 8″, column width: 2½″). Lettering on drawings should be made with a lettering set and should be large enough to take a reduction of 50–60 percent. Drawings should be made with India ink on tracing linen, smooth surface white paper, or Bristol board. Graph paper, if used, should be ruled in blue.

Photographs should be glossy prints with strong contrasts, and the magnification should be indicated by a scale. Photographs should be cropped to eliminate background material so that reproduction might be possible without reduction. Grouping of photographs should be indicated. Illustrations in color can be accepted only if the authors defray the cost.

Tables should be typed on separate pages, numbered consecutively with Arabic numbers, and collected at the end of the manuscript. All tables must have descriptive headings and should be understandable without reference to the text.

References. Names of authors should be mentioned in the text with the year of publication in parentheses. References should be listed alphabetically at the end of the paper as follows: Dawson, W. O., and Dodds, J. A. (1982). Characterization of subgenomic double-stranded RNAs from virus-infected plants. *Biochem. Biophys. Res. Commun.* **107,** 1230–1235. **See, however, the instructions** for *Short Communications* **below.** The names of journals should be abbreviated according to the *Chemical Abstracts Service Source Index,* 1980. References to books should include: author's name, year of publication, title of book (editor of book, if any), edition (if other than first), publisher, and place of publication.

Include in the reference list articles that are "in press," but incorporate in text or use footnotes for "manuscript in preparation," "unpublished observations," and "personal communication."

Abbreviations and Symbols. Where abbreviations are employed the author is asked to follow the usage established by *Chemical Abstracts Service Source Index*, 1980.

Nomenclature of Microorganisms. Binomial Latin names, with authorities, should be used in accordance with the International Rules of Nomenclature. Binomials should be underlined in the typewritten copy. A specific name should not be used without an accompanying capitalized generic name. The generic name for each species should be written in full where it first occurs in the text and again in the summary. Where the generic name appears frequently in the text it may be abbreviated by using the initial letter.

Short Communications. This section is open to short preliminary reports of important findings. They should not exceed six double-spaced typewritten pages including tables and illustrations. Do not use any section headings. All short communications must have abstracts. Illustrative material should be kept to a minimum (usually not more than one table or figure). Literature should be cited as follows: References should be given serial numbers in the text and listed consecutively at the end of the text (serial number, author, name of journal, volume, first and last page, and year of publication).

This section does not provide an accelerated means of publication, but is designed to offer the opportunity to present in brief form noteworthy results of works in progress.

Proofs. Proofs will be sent to the author with a reprint order form. Authors will be charged for alterations in excess of 10% of the cost of composition.

Reprints. Fifty copies of each article are granted free of charge and authors may order additional quantities.